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PATENT APPLICATION
Attorney's Docket No.: 1159.1006-000 (CYL98-01)



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

A. Lawrence
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7.11.00

Applicants: Steven A. Bogen, Herbert H. Loeffler and John A. Purbrick

Application No.: 09/032,676

Group: 1743

Filed: February 27, 1998

Examiner: L. Le

For: RANDOM ACCESS SLIDE STAINER WITH INDEPENDENT SLIDE HEATING
REGULATION

CERTIFICATE OF MAILING	
I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as First Class Mail in an envelope addressed to Assistant Commissioner for Patents, Washington, D.C. 20231	
on <u>6-30-00</u>	<u>Claire Handal</u>
Date	Signature
<u>CLAIRE T. HANDALIAN</u>	
Typed or printed name of person signing certificate	

AMENDMENT

Assistant Commissioner for Patents
Washington, D.C. 20231

Sir:

This Amendment is being filed in response to the Office Action mailed from the U.S. Patent and Trademark Office on April 19, 2000 in the above-identified application.

Please amend the application as follows:

In the Claims

Please amend the following claims.

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1. (Amended) A microscope slide stainer with random access slide staining capability, comprising:
- a moving platform adapted to support a plurality of microscope slides bearing biologic samples;
 - a plurality of heating element sets, each set having at least one heating element and each set heating at least one slide, each of said heating element sets having the capability of heating to different temperatures;
 - a temperature controller [electronic circuit that provides] that regulates electrical power to said heating element sets, said temperature controller being mounted on the moving platform; and,
 - a user interface in communication with the temperature controller [electronic circuit] and through which a desired temperature for microscope slides is specified, said user interface being mounted off of the moving platform and communicating data to the temperature controller on the moving platform to regulate the electrical power to the heating element sets.

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8. (Twice amended) A microscope slide stainer with random access slide staining capability, comprising:
- a plurality of microscope slides bearing biologic samples, positioned on a moving platform;
 - a plurality of heating element sets on the moving platform, each set having at least one heating element and each set capable of heating at least one slide, each capable of heating to a temperature distinct from the temperature of other heaters;
 - a temperature controller that regulates electrical power to said heating element sets, said temperature controller being mounted on the moving platform;
 - a user interface through which a desired temperature for each microscope slide is specified, said user interface being mounted off of the moving platform and said user interface comprising electronic circuitry which communicates data to the temperature controller on the moving platform to regulate the electrical power to the heating element sets ; and,
 - a group of conductors, for providing an electrical connection between the [heating elements] temperature controller on the moving platform and the user interface, the
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number of conductors in said group of conductors being less than the number of heater element sets.

10. (Twice amended) An automated device for preparation or incubation of biologic samples, comprising:
- a moving platform adapted to support a plurality of biologic samples;
 - a plurality of heaters positioned on the moving platform so as to provide heat to one or more samples;
 - a computer that specifies the desired temperature for each heater, said computer being mounted off of the moving platform;
 - independent heating control to each of said heaters capable of heating the heaters to different temperatures, said heating control comprising:
 - a plurality of temperature controller electronic circuits mounted on the moving platform, each supplying electrical power to at least one heater; and
 - a data communication link between the computer and each of said temperature controller electronic circuits through which each temperature controller electronic circuit receives data from the computer so that each of said temperature controller electronic circuits decodes the temperature data and provides an appropriate amount of electrical power to each of said heaters so that each heater is heated to the computer-specified temperature.

13. (Amended) A microscope slide stainer with random access slide staining capability comprising:
- a moving platform adapted to support a plurality of microscope slides bearing biological samples;
 - a plurality of heating means, each for heating at least one slide, each of the heating means having the capability of heating to different temperatures;
 - temperature controller means for [providing] regulating electric power to the heating means, said temperature controller means being mounted on the moving platform; and
 - user interface means in communication with the temperature controller means for specifying a desired temperature for each microscope slide, said user interface means

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being mounted off of the moving platform and communicating data to the temperature controller on the moving platform to regulate the electrical power to the heating means.

REMARKS

Claims 1-13 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Bogen et al. (U.S. Patent 5,645,114) in view of Muller et al. (U.S. Patent 5,273,905) or Potter et al. (U.S. Patent 5,819,842). That rejection is respectfully traversed and reconsideration is requested.

The Examiner acknowledges that Bogen et al. fails to "specifically recite each of the heating element sets having the capability of heating to different temperatures." For that feature, the Examiner has cited the Muller et al. and Potter et al. references.

Although the ability to heat the heaters to different temperatures is a distinction of the pending claims, the device claims under consideration are directed to a specific implementation of such independent control of heating elements on a moving platform which the Examiner has not even addressed, and the claimed implementation is not suggested by any of the references. In particular, in the actual implementation of the system disclosed in Bogen et al., the sets of heating elements were individually controlled, but control was directly from the stationary user interface computer. Accordingly, in one implementation discussed at page ten of the present application, an implementation with ten slide frames on the moving platform required a service loop containing a minimum of 30 wires between the stationary computer and the moving heating elements.

As the number of heaters on the moving platform increases, it becomes impractical to electronically control them via direct connections to a stationary computer. The large number of wires comprising the wiring harness, or "service loop" as it is commonly called, connecting the heaters on the rotary carousel to the computer is problematic. The wire bundle is stiff, precluding smooth carousel revolution and indexing. In addition, repeated flexion of wires can cause them to break. This issue is discussed in the patent specification, page 22, lines 2-14.

In accordance with the present invention, the number of wires required between the stationary computer and the moving heating elements is substantially reduced by mounting additional temperature controller electronics on the moving platform to regulate the electrical power to the heating elements in response to data received from the computer. Encoded data is communicated from the computer over a reduced number of conductors, and the data is then

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decoded by the temperature control circuitry on the moving platform to appropriately regulate the power to the plural heating elements.

Not only has the Bogen et al. reference failed to recite that each of the heating element sets has the capability of heating to different temperatures, as acknowledged by the Examiner, Bogen et al. has failed to suggest temperature control circuitry mounted on the moving platform in order to enable a reduced number of connections between the controlling computer and the moving platform.

The Muller et al. and Potter et al. references relate to systems in which the samples are stationary. It is respectfully submitted that there is no suggestion of combining those references with Bogen et al. in order to provide independent temperature control to heating elements on a moving platform. More importantly with respect to the claims under consideration, because those secondary references fail to disclose any moving platform, they can provide no suggestion of addressing the problem overcome by the present invention, the problem of controlling the heating elements on a moving platform. Thus, even if one were to accept the Examiner's position in the last Office Action with respect to independent temperature control, there is no suggestion in any of the references of a temperature controller mounted on the moving platform and responding to data received from a stationary computer as recited in each of the claims under consideration.

Claims 1-13 were also rejected under 35 U.S.C. § 103(a) as being unpatentable over Muraishi (U.S. Patent 5,154,889) in view of Muller et al. or Potter et al. That rejection is respectfully traversed and reconsideration is requested.

As argued in detail in applicant's prior application, 09/205,945, there is no suggestion in Muraishi of providing slide heaters on a moving platform. More specifically, with respect to the claims of this application and as acknowledged by the Examiner, "Muraishi fails to specifically recite each of the heating element sets having the capability of heating to different temperatures." In fact, Muraishi teaches much less than Bogen et al. because the apparatus of Bogen et al. is capable of individual temperature control; whereas, Muraishi has the goal of uniform temperature control of all samples in an incubator.

For the reasons discussed above, Muller et al. and Potter et al. fail to suggest the independent temperature regulation by controller circuitry on the moving platform in response to data from a stationary user interface computer and thus fail to suggest the claimed invention.

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Claims 1-13 were provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-13 of copending application number 09/205,945. That rejection is respectfully traversed.

Application 09/205,945 is a continuation to the Bogen et al. patent discussed above, and its claims are generic to the invention of the present application. The present application is directed to a nonobvious improvement to the invention disclosed and claimed in both Bogen et al. and application number 09/205,945.

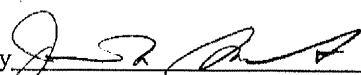
The Examiner has stated that "one of ordinary skill in the art would have recognized that the instant claims are encompassed by the claims of the copending application number 09/205,945." It is respectfully submitted that the Examiner has used the wrong test in determining an obviousness-type double patenting. For a later filed application to avoid a double-patenting rejection, it is sufficient that the claims of the later filed application are nonobvious over the claims of the prior application. See M.P.E.P. Section 804, paragraph II.B.1.(a). In this case, the present claims are nonobvious over the claims of the prior application for the same reasons that they are nonobvious over the full teachings of the Bogen et al. patent. In particular, the claims of the prior application do not teach temperature controller electronic circuitry on the moving platform to regulate the heating elements on the platform in response to data received from a stationary user interface.

CONCLUSION

In view of the above amendments and remarks, it is believed that all claims are in condition for allowance, and it is respectfully requested that the application be passed to issue. If the Examiner feels that a telephone conference would expedite prosecution of this case, the Examiner is invited to call the undersigned at (781) 861-6240.

Respectfully submitted,

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Dated: 6/29/00

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